

CHENNAI PORT TRUST

BUDGETARY OFFER FOR SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND HANDING OVER OF (1) OUTDOOR TYPE PTZ IP BASED DAY & NIGHT COLOUR DOME CAMERAS COMPLETE WITH ALL ACCESSORIES, (2) POINT TO MULTIPOINT WIRELESS TRANSMITTER / RECEIVERS COMPLETE WITH ALL ACCESSORIES, (3) 19" & 42" LCD CCTV MONITORS COMPLETE WITH ALL ACCESSORIES ALONG WITH FIVE YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT –Reg.

1.0 GENERAL:

Trust proposes to replace its aged unserviceable CCTV components like Analog CCTV Cameras, Transmitters / Receivers and LCD Monitors with New, Auto Iris, Day & Night, IP, Colour, PTZ Dome Cameras, Point to Multi point Transmitters Receivers and 19" Colour LCD Monitors along with comprehensive AMC for five years for all the items of the existing Centralized Video Surveillance system of Chennai Port Trust along with the proposed items of the Tender.

2.0 SALIENT FEATURES:

The system shall be suitable to work along with the CCTV components presently working with Trust like (1) BOSCH Fixed IP cameras (2) Samsung 43X IP, PTZ Dome cameras (3) MOTOROLA make Point to Multi point Transmitter / Receivers (4) BOSCH/VERINT/BROVIS make Point to point Transmitter / Receiver (5) Samsung make SN6400 NVR (6) QNAP VIOSOR-8040U-RP, 40 Channel NVR (7) HIK VISION make PC based DVR.

- i) The system shall be designed to work in the license free band width 5.825 to 5.875 Ghz. or else stated in the specification.
- ii) The Cameras shall be IP based and Shall conform to ONVIF standards and UL Approved.
- iii) Each Camera shall be supplied along with one Cameras mounting GI Fixture with suitable base for Grouting.
- iv) All the RF Equipments shall have ETA Approval (EQUIPMENT TYPE APPROVAL) issued by the WPC and a copy of the ETA shall be furnished.
- v) Tenderer shall supply and install structured anodized MS towers wherever it is required for getting clear line of sight .
- vi) Tenderer shall supply, install and Commission necessary 8 and 16 port switchers complete with all accessories for viewing the video signals individually at Centralized Video Surveillance system control room (CVSS)
- vii) Tenderer shall supply install and Commission Necessary Image viewing unit and Remote client software and Network Controller JoyStick.
- viii) Tenderer shall also supply and lay CAT 6 Network Cable.
- xi) Tenderer shall also enter into a Comprehensive Annual Maintenance Contract with Trust for Five years for all the items of the already existing Centralized Video Surveillance system together with proposed supply of items and shall also furnish budgetary offer for the same. Offers without quote for AMC will not be considered.

- xii) Tenderer shall supply,install and commission a VIDEO Surveillance such the clear surveillance pictures are viewed as per technical specification given below.

Tenderer shall furnish offers for all items mentioned in the Schedule "A1" otherwise tenders will be treated as incomplete and will not considered for arriving Trust estimate.

3.0 TECHNICAL SPECIFICATION:

Tenderers shall furnish Offers for all the item as per the detailed Technical specification mentioned below.

3.1.0 CAMERAS:

QUANTITY REQUIRED : 30 Numbers.

Trust proposes to replace its existing fixed type analog Cameras with New Out door type IP based PTZ type Dome Cameras as per the technical specification given below in the following locations

- | | | |
|------------------------|---------------------------------|----------------------|
| (1)CISF GATE 1 B in 1 | (2) CISF GATE 1 B in 2 | (3) CISF GATE 1 in |
| (4) CISF GATE 1 out | (5) CISF GATE 2 | (6) CISF GATE 2A |
| (7)CISF GATE 3 | (8) CISF GATE 4 | (9) CISF GATE 5 in |
| (10) CISF GATE 5 out | (11) CISF GATE 7 in | (12) CISF GATE 7 out |
| (13) CISF GATE 8 | (14) CISF GATE 9 | (15) CISF GATE 10 in |
| (16)CISF GATE10 out | (17)CISF "C" coy/ INS ADYARAREA | (18) MEE 1 AREA |
| (19) CCTL AREA | (20) SIGNAL STATION | (21) WEST QUAY 4 |
| (22) PASSENGER STATION | (23) MAIN HOSPITAL | (24) CISF NEW GATE |
| (25) ADMIN OFFICE in | (26) ADMIN.OFFICE out | (27) CB FOYER |
| (28) OLD ADMIN FOYER | (29)SPARE | (30) SPARE |

3.1.1. DETAILED TECHNICAL SPECIFICATION OF CAMERAS:

New Out door type IP based PTZ type Day & Night Colour Dome Cameras shall have the following features.

The Camera shall be an integrated high resolution Exview HAD CCD Camera using a ¼ in. Exview HAD CCD imager and a 3.4 - 120 mm auto iris, auto focus optical zoom lens, variable high speed, 360 deg. PAN /TILT Drive.

The Camera module shall be designed to perform over a wide range of environmental and lighting conditions with a Horizontal resolution of 540 TVL (NTSC/PAL) and sensitivity down to 0.05 Lux in color mode and 0.007 Lux in Night Mode.

The Camera shall automatically switch from Day light Color operation to a Higher sensitivity Night time Monochrome mode when light falls below an adjustable threshold level.

The Optical Zoom shall be 36 X and full 10 X or better digital zoom shall be functional once the maximum optical zoom limit has been reached.

The Camera shall store up to 99 preset scenes and shall provide advanced alarm handling to manage up to Seven alarm inputs and Four alarm outputs.

The Camera shall be designed to work at 230volts, 50Hz., Single Phase A.C. Power Supply.

Camera Housing shall come standard with a rugged impact resistant polycarbonate bubble with pole mount adopter and shall be a NEMA 4 X or IP 66 certified, Rugged weather resistant package with pole mount.

Outdoor Housing shall be made up of Cast Aluminium for Corrosion resistance and provided with a built – in Heater / Blower to provide an Operating Temperature range up to + 50 Deg.The Cameras offered shall be suitable protected from lightening hazards.

The Camera shall be easily upgradeable and any software and firmware upgrades shall be done at free of cost.

The Cameras shall be designed to work along with all the existing reputed wireless Transmitter and Receivers operating in the 5.825 Ghz. LICENSE FREE BAND.(Viz: BROVIS, MOTOROLA and VERINT makes.)

The Camera shall also take care of following technical specifications:

IMAGER	: ¼ in. Exview HAD CCD.
VIDEO Standards	: H.264; M-JPEG.
VIDEO Data Rate	: 9.6 Kbps – 6 Mbps Constant and Variable.
VIDEO Resolution	: NTSC: 704 x 480 to 176 x 120
	: PAL : 704 x 576 to 176 x 144
VIDEO OUTPUT	: 1.0 V p-p +/- 75 Ohms.
OVERALL DELAY	: 100 ms.
LENS	: 3.4 - 120 mm Auto focus, Automatic Day & Night
NETWORK PROTOCOLS	: RTP, Telnet, UDP, TCP, IP, HTTP, IGMP,ICMP
CONFIGURATION INTERFACES:	Via WEB Browser,Built in WEB Browser
SIGNAL to NOISE RATIO	: Greater than 50 dB
PAN Range	: 360 Deg.Continuous
TILT Angle	: 18 Deg to + 90 Deg.
ZOOM - OPTICAL	: 36 X
ZOOM - DIGITAL	: 12X
PRE POSITION SPEED	: PAN 360 Deg./S
	: TILT 100 Deg./S
SYNCHRONIZATION LINE LOCK	: -120 Deg. To 120 Deg Vertical Phase adjust or internal crystal.
OPERATING TEMPERATURE	: Min. 15degree celcius and Max. 50 degree celcius.

The Cameras shall be highly protected from Water ingress,Dust Ingress and shall be suitably protected from Lightening.

3.1.2. CERTIFICATION:

The Cameras Offered by the Tenderer shall be UL Approved and conform to ONVIF Standards (Open Network Video Interface Forum) and for the product safety the camera shall comply with CE Regulations UL, CSA, EN, and IEC Standards.

3.1.3 CAMERA MOUNTING STRUCTURES:

All the Cameras shall be supplied along with aesthetically designed G.I. Mounting structures as detailed below :-

- 1) shall have a total height of 2500 mm.
- 2) shall have suitable bottom plate welded to the GI pipe for grouting on the ground.
- 3) The GI pipe and other brackets welded to it shall anodized to withstand the hostile environmental conditions.
- 4) The top of the pipe shall be closed with plate to prevent dust/water getting into the pipe.
- 5) The scope of work will also include installation of the mounting structures for all the cameras at the locations pointed out by Trust including construction of concrete pedestal for grouting/fixing the GI Structure.

3.1.4 8 PORT AND 16 PORT 10/100/1000 SWITCHER

QUANTITY REQUIRED:

- a) 8 PORT SWITCHER: 6 Numbers
- b) 16 PORT SWITCHER: 4 Numbers

Tenderer shall supply, Install and Commission necessary 8 and 16 port switchers complete with all accessories for viewing the video signals individually at Centralized Video Surveillance system control room (CVSS) as per technical specification given below

MAKE: D-LINK / DAX / CISCO only.

STANDARDS IEEE 802.3, 802.3u, 802.3x and 802.3ab	
PORTS	8 Port(min) and 16 Port (min) RJ45 10/100/1000 +2 mini-GBIC Ports
CABLING TYPE	Category 5 Ethernet or Better
LED	System 1 through 24

3.1.5 IMAGE VIEWING UNIT WITH REMOTE CLIENT SOFTWARE AND NETWORK CONTROLLER JOY STICK.

The Tenderer shall supply install and commission necessary image viewing unit with remote client software along with network joystick controller at the four different location furnished below for viewing the VIDEO signals locally apart for viewing at CVSS.

3.1.5.1. REMOTE VIEWING UNIT: QUANTITY REQUIRED: 4 NUMBERS

CPU	: Intel Core i3
CHIPSET	: Intel H57 Express
BUS ARCHITECTURE	: Intel Graphics Media accelerator HD,512 NVIDIA : GeForce
RAM	: 2 X 2 GB 1333 Mhz,Dual Channel DDR3 : SDRAM
HARD DISK DRIVE	: 320 GB Serial ATA 3.0 GB/SHDD
MONITOR	:21" Flat Panel LCD Monitor
KEYBOARD	: USB Keyboard
MOUSE	: Optical USB
MEMORY SLOTS	: 4 DIMM
PORTS	: 6 USB Ports(including 2 USB in front),1 serial : AUDIO Ports for microphone and Headphone : in front.
CABINET	: MINI Tower
DVD WRITER DRIVE	:8X or Better DVD – ROM Drive
NETWORKING FEATURES	:10/100/1000 on board integrated Network port : Booting Facility,Remote system installation, : remote wake up.
OPERATING SYSTEM	: Pre Loaded WINDOWS 7 OS with MEDIA : and Documentation and Certificate of : authenticity.
OS CERTIFICATIONS	: Win Logo Vista Business and LINUX certification
POWER MANAGEMENT	: Screen Blanking ,Hard disk and System Idle Mode : in Power ON ,Set Up Password,Power Supply : SMPS Surge Protected.

ANTI VIRUS SOFTWARE : Kaspersky or equivalent Anti virus (Latest
: Version) with one year License.

NOTE: Each unit shall be supplied along with one number 1.0 KVA rated power
back up unit with SMF Batteries for two hours back up.

3.1.5.2. REMOTE CLIENT SOFTWARE :

QUANTITY REQUIRED: 4 NUMBERS

MULTIPLE SITE CONNECTIVITY : Required for upto 64 sites /DVSS

CONTROL OPTION : Should be able to control the Speed Domes
: from the software(PAN/TILT/ZOOM)
: The Remote client software shall replicate
: all NVR functions.

COMPATIBILITY : WINDOWS XP and VISTA

All the VIDEO pictures of the Local Gates as mentioned in section 4.0.0 of this
specification shall be viewed in One screen of the Monitor and shall viewed as a single
picture as and when it is required.

3.1.5.3. NETWORK CONTROLLER JOYSTICK (For CVSS, CPT, Dy.CPT ROOMS) :

QUANTITY REQUIRED : 3 NUMBERS

PTZ CONTROL : Joystick (3 Axis twist zoom)
OS COMPATIBLE : WINDOWS 7 ,Vista and XP
INTERFACE : USB 2.0
OPERATING VOLTAGE : 5 Volt DC(USB)

**Note: Each System shall be supplied with Original WINDOWS 7 Professional
Software, Kaspersky anti virus software for**

3.1.5.4. NETWORK VIDEO RECORDER

QUANTITY REQUIRED :1 NUMBER

The proposed system shall consist of One number Network Video
Recorder(NVR) to record all the Video signals connected to it as per detailed
specification mentioned below.

1.IP Camera Inputs :64 channels minimum.
2.Live :1,4,9,16,36,64 Channels Simultaneously
3.Search :1 channel simultaneously.
4.Compression(IP) :MPEG—4,JPEG
5.Record Rate : Up to 480 Fps @ 704 X 576 pixels (min.)
6.Mode :Manual,Schedule (Normal / Event)
7.Overwrite Modes :Continuous
8.Search Mode :Time,Event,Calendar

9.Play Back Function	:REW,FWD(Depend on CMS)
10.Bandwidth Control	:Automatic(Automatic Transmission)
11.Max.Remote Users	:10 simultaneously
12 Protocol support	:TCP/IP,DHCP,DNS,DDNS,HTTP,ARP,ICMP,NTP, RTP/RTCP,RTSP.
13 Monitoring	:CMS Software(SNM-128S/P),Built in WEB server
14 Storage Capacity	: 8 TB(min) Up to 20 TB using external storage option
15 Raid	: Normal, RAID 1, RAID 5
16 Internal HDD	: Upto 4 SATA HDDs
17 External HDD	: Upto 4 expansion bay (upto 4 HDD each)
18 Password protection	: 2 User Level
19 DOT Matrix LCD	: 20 x 2 status display
20 Inputs	: Screw Terminal 2 inputs, NO/NC
21 Outputs	: Screw Terminal 2 relay outputs, NO/NC
22 Ethernet	: 3(RJ-45 100/1000 Base-T), 1 (RJ-45 100 Base-T)
23 Serial Interface	: RS-232C
24 USB	: 2 USB 2.0 ports(Firmware upgrade)
25 eSATA	: 4 External SATA ports
26 Input Voltage	: 100 – 240 V AC +/-10% , 50/60 Hz, Auto ranging
27 Rack Mount Kit	: For mounting one unit in an EIA 19 inch rack

The unit shall have facility to accept Analog Camera signals also.

The system shall be supplied with power Chord, Audio/Video Cables etc.

4.0.0 WIRELESS TRANSMITTER AND RECEIVER

The PTZ Cameras installed in the following gates has to be viewed both locally and to be viewed centrally at the Centralized Video Surveillance System (CVSS) at the centenary building as per the details given below..

(I)

Gate No.1 in-----Camera wired to Local location at CISF 1 GATE

Gate No.1 B in 1—Camera connected to GATE 1 through wireless

Gate No.1 B in 2-----Camera wired to GATE 1 through Cable

Gate No.1 out----- Camera connected to GATE1 through cable

Gate No.2-----Camera wired to GATE1 through wireless

Gate No.2A—Camera Connected to GATE 1 through wireless

The above 6 CISF gates have to be viewed at CISF Gate 1 and at CVSS---

CVSS AND GATE NUMBER 1 IS TO BE CONNECTED THROUGH 100 MB WIRELESS.

(II)

Gate No.3---Camera connected to CISF GATE 5 through Wireless

Gate No.4--- Camera connected to CISF Gate 5 through Wireless

Gate No.5 IN—Camera connected to CISF Gate 5 through Wire

Gate No.5 OUT—Camera connected to CISF Gate 5 through Wire

The above 4 CISF gates have to be viewed at CISF Gate 5 and at CVSS

CVSS AND GATE NUMBER 5 IS TO BE CONNECTED THROUGH 100 MB WIRELESS.

(III)

Gate No.7 IN ---- Camera connected to Gate 7 through wire

Gate No.7 OUT—Camera connected to Gate 7 through Wire

Gate No.8-----Camera connected to Gate 7 through Wireless

Gate No.9-----Camera connected to Gate 7 through Wireless

The above 4 CISF gates have to be viewed at CISF Gate 7 and at CVSS

CVSS AND GATE NUMBER 7 IS TO BE CONNECTED THROUGH 100 MB WIRELESS.

(IV)

Gate No.10 IN---Camera connected with Gate 10 through wire

Gate No.10 OUT---Camera connected with Gate 10 through wire

Gate No. "C" COY—Camera Connected with Gate 10 through wireless

EME I Office ----Camera connected with Gate 10 through wireless

The above 4 Location have to be viewed at CISF Gate 10 and at CVSS

CVSS AND GATE NUMBER 10 IS TO BE CONNECTED THROUGH 100 MB WIRELESS.

(V)

CCTL Camera to be connected through wire

SIGNAL STATION Camera to be connected through wireless at CCTL

WEST QUAY IV Camera to be connected through wireless at CCTL

PASSENGER STATION Camera to be connected through wireless at CCTL

The above 4 locations shall be viewed at CVSS only

CVSS AND CCTL IS TO BE CONNECTED THROUGH 100 MB WIRELESS.

4.1.1 Detailed technical specification:

The Bidders shall propose a suitable RF Solution to carry the VIDEO signals from the above 18 locations for viewing locally at the nearby Control rooms and Centrally as indicated above and 8 locations only at the control room.(CVSS)

1) There shall 5 sets of Multiple Point To Point Links capable of providing a minimum of 6 MB bandwidth at every gate/location. The Specification of the radios meant for the locations are provided in Annexure II

2) The VIDEO signal from all the Gates/Locations shall be taken to Local Control Room as mentioned above for Local Viewing through wireless./ wire as mentioned earlier. Each multi point transmitter shall be capable of handling four remote locations. with 6 Mbps capacity for each port.

3) There will be 4 such Control Rooms Locally monitoring the VIDEO signals Controlling 18 Cameras at the Gates/Locations.

4) The FOUR Control rooms shall be interconnected with the centralized video surveillance system Control Room using 100 MB Back Haul Radios in line with the specifications given in Annexure I.

5) The Back Haul Radios shall support ring Topology to provide Redundancy so that even one link gets cut off all the VIDEOS's of the all 18 Cameras shall be available in the video surveillance system Control Room .

Note: The number of rings and additional Back Haul RADIOS --Point to Point,If Required, shall be indicated separately in addition to the Ones mentioned in Schedule "A"

6) All the RF Equipments supplied shall have ETA Approval issued by the WPC and a copy of the ETA (EQUIPMENT TYPE APPROVAL)shall be furnished.

7) In case Direct Line Of Sight is NOT there the bidder shall add suitable MS Structural Towers / Repeaters may be included after carrying out the survey of the site at their own cost and arrive the number of towers / Repeaters required if any.

4.1.2. ANNEXURE - I

SPECIFICATION FOR 100 MB POINT TO POINT BACKHAUL RADIO:

QUANTITY REQUIRED:6 SETS.

Note: One set means One number at the remote location and one number at Centenary building/CVSS with all necessary accessories.

Sl.No. Features	Description.
1. Frequency	: MultiBand Radio Supporting 2.412 to 2.472 and 4.960 to 5.950 Ghz.
2. ODU-IDU	:Through Cat-6 Connectivity
3. Capacity	: Upto 100 Mbps Net Throughput
4. Services	:16E1 + Ethernet (without converter)
5. TDM Latency	: 5-19.5 m.sec.(user configurable)
6.Time Channel Accuracy	: Independent Clock per port +/- 20 PPM.
7. TDM Framing	: Unframed (Transparent)
8.Impedence	:120 Ohm Balanced
9.Loop Back	: Provision to enable Line and Reverse Loopback Local / remotely
10.Jitter and Wander	: According to ITU-T G823,824
11.Duplex Technology	: TDD
12.Error Correction	: FEC k=1/2,2/3,3/4,5/6
13.Antenna Alignments Tool	: Audible Buzzer

14.Security	: Mac Locking & AES 128 Encryption
15.Modulation	: 2x2 MIMO,BPSK,QPSK,16QAM,64 QAM-OFDM
16 VLAN	: 802.IQ,802.IP and QinQ Tagging Must be transparent for the VLAN Traffic.
17.QOS	: 4 Level.
18. SFP Port	: Must be Supported1+1 for TDM application Ring/1+1 for Ethernet applications
19. Maximum frame	: Size 2048 Bytes
20. Spectrum View	: Spectrum View feature must be available in order to find out the best channel in interfered.zone.
21.Burst Synchronization	:Proposed system must be supported for Burst Synchronization feature to enable co located Installation.
23. Management protocol Upgrade capabilities	: SNMP and Telnet (a) support S/W backup and restore through EMS (b) Multiple sites upgrades through EMS “local and remote over the air.
24.Performance Monitoring	:PM logs for 30 days event logs and provision for monitor logs must be available through EMS.
25. Compatibility alarm	:Non-SW upgrade alarms , available in the UM
26. Operation temperature	: -35°k to + 60° C
27. Humidity	: ODU:IP67 100% Non condensing
28.Ethernet Port	:10/100 Base T with Auto-Negotiation(IEEE802.3u) Framing / Coding IEEE 802.3

4.1.3. ANNEXURE II

SPECIFICATION FOR FOUR PORT 6 Mbps PER PORT-- POINT TO MULTI POINT (4 points)RADIOS FOR GATES/REMOTE LOCATIONS

QUANTITY REQUIRED:5 SETS

Note: Each set will have 4 numbers slave units and one number main unit with all necessary accessories.

1. Frequency	: MultiBand Radio Supporting 2.412 to 2.472 and 4.960 to 5.950 Ghz.
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2. nLOS , NLOS operation	: Must support nLOS deployment
3. Modulation	: OFMD, BPSK,QPSK,16QAM,64QAM
4. Channel Resolution	: 5MHz.
5. Channel accuracy	: +/-20PPM
6. Duplex Technology	: TDD
7. Split configuration	: Separate Indoor Unit and Outdoor Unit
8. Service	: Ethernet
9. Collocation Synchronization	: Support for synchronization of TDD radio frames at hub site.
10. Channel Selection	: Automatic channel selection must be supported.
11. Transmit Power	: Max 18 dBm
12. Antenna alignment tool	: Audible Buzzer
13. Error correction Method	: FEC 1/2, 2/3, 3/4.
14. Channel Bandwidth	: 5/10/20 MHz.
15. Latency	: <3 Msec. typical
16. Net Data Throughput (Usable)	: 6 Mbps / port
17. Ethernet Throughput control	: CIR. Configurable in the Radio
18. IDU to ODU interface	: Outdoor CAT5e Cable
19. LAN Interface	: 10/100 Base Interface with Auto negotiation (IEEE802.3)
20. Framing/Coding	: IEEE802.3/U
21 Bridging	: Self-learning up to 2047 MAC address IEEE802.1Q
22. VLAN	: Must be Transparent for the VLAN traffic.
23. Management	: (a) SNMP based single management application for entire link. (b) Telnet support.

	(c) Installation , configuration , Fault Management thru EMS (Local and Remote.)
24 Upgrade capabilities	: a) Support S/W backup and restore through EMS b) Multiple sites upgrades through EMS. c) Local and remote Over the air.
25. Compatibility Alarm	: Alarm Indication for SW incompatibility.
26. Performance Monitoring	: PM logs for 30 days , event logs and provision for monitor logs must be available through EMS.
27. Login	: Read, Read/Write, Trap Community passwords.
28. Login Mode.	: Three type of login option. a) Operator b) Installer c) Observer
29. Encryption	: AES-128
30. MAC Authentication	: MAC address locking between two radios.
31. Power sources	: 110/220 VAC, Wider Range DC, 20 to 60 VDC.
32. Management VLAN	: Provision of separate VLAN for management.
33. ODU enclosure	: IP67
34. Operating Temperature	: -35 to -60 degree.
35. Humidity	: 100% non-condensing

4.1.4 M.S.STRUCTURAL TOWERS:

In case Direct Line Of Sight is NOT there the bidder shall add suitable MS Structural Towers / Repeaters may be included after carrying out the survey of the site at their own cost and arrive the number of towers / Repeaters required if any.

The Towers shall have a standard design and Modular in construction and each module shall not be greater than 3 metres in Length.

All the support structures and main structures of the tower along with the fasteners shall be anodized .

All necessary precautions shall be taken to protect the towers from the hostile highly corrosive environment prevailing in the port area.

The requirement and height of the tower shall be decided by the Tenderer after making site survey. The same shall be indicated in the Budgetary offer about the quantity and location for which the tower is required.

In order to standardize the height of the tower ,at places where the towers are required ,the tenderer shall offer for standard height of 15 metres i.e. five modules each of 3 metres in length .

The scope of work also includes installation of tower at the site .

In the Budgetary offer the tenderer shall indicate the budgetary of One number tower of 15 metres length .The installation charges shall be indicated separately.

5.0.0. MONITORS

Along with the above Trust is also Propose to provide dedicated monitors for each individual cameras as per the Specification given below.

5.1.0. 19 inch Colour LCD Monitor : 27 numbers

- | | |
|-----------------------|--|
| a) Type of Monitor: | Wall Mounting Colour LCD Flat Monitor for viewing CCTV Pictures. |
| b)Size of Monitor: | 19 inch (Min.) |
| c)Colour System: | PAL / NTSC |
| d)Compatibility: | To work along with CCTV Cameras. |
| e)Display Resolution: | 1280 * 1024 pixels (min.) |
| f)Contrast Ratio: | 800 : 1 |
| g)Brightness: | 500 TV Lines (Min.) |
| h)VIDEO Inputs: | VIDEO1,VIDEO2,S-VIDEO,RGB,DVI & HDMI |
| i)Connectors: | BNC (One IN and One Out) |
| j)Power supply: | 230 volts +/- 10%,50 Hz+/- 1% ,Single Phase A.C. |

The system shall be designed for higher endurance life and it shall be designed for 24 x 7 operation.

The Scope of work includes all necessary Connectors, Wall Mounting Kit, suitable TV Tuner unit for each system , AC power adapter.

5.2.0. 42 inch Colour LCD Monitor: 4 numbers

- a) Type of Monitor: Table Top Colour full HD LCD Flat Monitor for viewing CCTV Pictures.
- b)Size of Monitor: 42 inch (Min.)
- c)Colour System: PAL / NTSC
- d)Compatibility: To work along with CCTV System.
- e)Display Resolution: 1366 x 768 pixels (min.)
- f)Contrast Ratio: 800 : 1
- g)Brightness: 500 TV Lines (Min.)
- h)VIDEO Inputs: VIDEO1,VIDEO2,S-VIDEO,RGB,DVI & HDMI
- i)Connectors: BNC (One IN and One Out)
- j)Power supply: 230 volts +/- 10%,50 Hz+/- 1% ,Single Phase A.C.

The system shall be designed for higher endurance life and it shall be designed for 24x7 operation.

The Scope of work includes all necessary Connectors, Wall Mounting Kit, suitable TV Tuner unit for each system , AC power adapter.

5.3.0 MULTIFUNCTION CCTV TEST MONITOR: 2 Numbers

- (a) Display :2.5 inch,TFT LCD screen
- (b)Resolution :960 X 240
- (c)Video Input : I channel BNC ,Brightness Adjustable.
- (d)Signal Mode :NTSC / PAL automatically suitable.
- (e)Video Output :1 channel BNC
- (f) Battery :Lithium
- (g)Battery Back up :5 Hours min. after full charging :

The unit is primarily required for testing the PTZ and Fixed Cameras at site.It shall be portable and easy to carry and shall be supplied with all the materials including

batteries ,carrying case, test lead test, video cable and all other standard accessories like Audio and Video cables etc.,

6.0.0.COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT:

The successful tenderer will enter into FIVE years Comprehensive Annual Maintenance Contract with Trust after successful completion of the Guarantee period.

Tenderer shall post One technical person per shift with transport throughout the year to carryout repair work at site itself as and when it occurs.

The annual maintenance contract includes all the materials that is to be supplied vide this tender and shall include other new working components presently available with Trust viz.

- (1) BOSCH Fixed IP cameras 4 numbers
- (2) Samsung 43X IP,PTZ Dome cameras 5 numbers
- (3) MOTOROLA make Point to Multi point Transmitter /Receivers :One number
- (4) BOSCH/VERINT/BROVIS make Point to point Tranmitter/Receiver:1 number each
- (5) Samsung make SN6400 NVR One number
- (6) QNAP VIOSTOR-8040U-RP,40 Channel NVR :One number
- (7) HIK VISION make PC based DVR.:One number
- (8) SONY 19 “ TFT LCD Monitors 9 numbers.

Note:

- 1) The Tenderer shall furnish budgetary offer for all the items mentioned in the enclosed Schedule 'A1'- Schedule for Prices & Quantities.
- 2) The Tenderer shall visit the site and get acquainted with the topography and accordingly furnish their budgetary offer.
- 3) The Tenderer shall furnish budgetary offer for all the items as mentioned in Schedule 'A1' or else will be treated as incomplete and will not be processed further.
- 4) For further details, the Tenderer shall contact the Executive Engineer (Electronics & Communication) at 2nd floor of Old Administrative Office Building, Rajaji Salai, Chennai Port Trust, Opp. Reserve Bank of India, Chennai – 600 001. Phone No.2536 2201 Extn. 2708.

CHIEF MECHANICAL ENGINEER

ITEM NO: 1

BUDGETARY FOR SUPPLY,INSTALLATION,TESTING,COMMISSIONING ANDHANDING OVER OF (1) OUTDOOR TYPE PTZ IP DOME CAMERAS COMPLETE WITH ALL ACCESSORIES,(2)POINT TO MULTIPOINT WIRELESS TRANSMITTER / RECEIVERS COMPLETE WITH ALL ACCESSORIES,(3) 19”& 42”LCD CCTV MONITORS COMPLETE WITH ALL ACCESSORIES ALONG WITH FIVE YEARS COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT –Reg.

SCHEDULE ‘A1’

SCHEDULE OF PRICES & QUANTITIES

Sl.No.	Description of work	Qty.	Unit	Rate/ Unit	Amount
1.	Supply, installation, testing and commissioning of CCTV CAMERAS and other accessories				
1.	Out-door type IP Based PTZ type Dome Cameras complete with Camera housing and camera mounting structures as per Trust’s specification.	30	Nos.		
1(a)	VAT @%		L.S.		
1(b)	Service Tax @%		L.S.		
2.	8 Port Switcher as per Trust’s specification.	6	Nos.		
2(a)	VAT @%		L.S.		
2(b)	Service Tax @%		L.S.		
3.	16 Port Switcher as per Trust’s specification.	4	Nos.		
3(a)	VAT @%		L.S.		
3(b)	Service Tax @%		L.S.		
4.	Remote viewing Unit as per Trust’s specification.	4	Nos.		
4(a)	VAT @%		L.S.		
4(b)	Service Tax @%		L.S.		
5.	Remote Client Software as per Trust’s specification.	4	Nos.		
5(a)	VAT @%		L.S.		
5(b)	Service Tax @%		L.S.		
6.	Network controller Joystick	3	Nos.		
6(a)	VAT @%		L.S.		
6(b)	Service Tax @%		L.S.		
7.	Network Video Recorder(NVR) as per Trust’s Specification	1	Nos.		
7(a)	VAT @ %		LS		
7(b)	Service Tax @ %		LS		

II.	Supply, installation, testing and commissioning of WIRELESS TRANSMITTER AND RECEIVERS.				
1.	100 MB Back haul Radios as per Trust's specification	6	Set		
1(a)	VAT @%		L.S.		
1(b)	Service Tax @%		L.S.		
2.	6 MB Radios for Gates and Remote Locations as per Trust's specification	5	Set		
2(a)	VAT @%		L.S.		
2(b)	Service Tax @%		L.S.		
3.	MS Structural towers as per Trust's specification	1	No.		
3(a)	VAT @%		L.S.		
3(b)	Service Tax @%		L.S.		
III.	Supply, installation, testing and commissioning of CCTV LCD MONITORS				
1.	19" TFT LCD Monitor as per Trust's specification	27	Nos.		
1(a)	VAT @%		L.S.		
1(b)	Service Tax @%		L.S.		
2.	42" TFT LCD Monitor as per Trust's specification	4	Nos.		
2(a)	VAT @%		L.S.		
2(b)	Service Tax @%		L.S.		
3.	Multi-function CCTV Test Monitor	2	Nos.		
3(a)	VAT @%		L.S.		
3(b)	Service Tax @%		L.S.		
GRAND TOTAL (In Rupees)					

- Note:**
1. The tenderer shall furnish budgetary offer for all the items mentioned above
 2. If any of the statutory levy mentioned above is not required, the same may be stated as "NIL".
 3. If any statutory levy is required other than the one mentioned above, the same may be furnished separately along with the rate at which it is charged.
 4. The prices offered shall include all transportation, insurance charges, etc.,
 5. Trust will not furnish "C" or "D" form.
 6. Tenderer shall furnish budgetary offer for Comprehensive Annual Maintenance Contract in the enclosed format.
 7. If the tenderer requires any item for satisfactory functioning of the proposed system other than the ones mentioned above the same shall be indicated separately at unit rate along with its statutory levies and the rate at which it is charged

CONTRACTOR

ITEM NO: 2

**COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT FOR FIVE YEARS FOR
ALL THE ITEMS OF CENTRALISED VIDEO SURVEILLANCE SYSTEM AT CHENNAI
PORT TRUST - Reg.**

SCHEDULE 'A1'

SCHEDULE OF PRICES & QUANTITIES

Sl.No.	Description of work	Qty.	Unit	Rate/ Unit	Amount
1 (a)	Annual maintenance contract for First year.	1	No.		
1(b)	Service Tax @%		L.S.		
2(a)	Annual maintenance contract for Second year.	1	No.		
2(b)	Service Tax @%		L.S.		
3 (a)	Annual maintenance contract for Third year.	1	No.		
3(b)	Service Tax @%		L.S.		
4(a)	Annual maintenance contract for fourth year.	1	No.		
4(b)	Service Tax @%		L.S.		
5 (a)	Annual maintenance contract for Fifth year.				
5(b)	Service Tax @%		L.S.		

NOTE:

The total cost under Item No.I and Net present value (NPV) of Item No.II will be taken for the evaluation of financial merit.

Note: Tenderer shall furnish Budgetary Offer for all the items mentioned above.

Budgetary Offers without quote for AMC will be considered as incomplete offer.

Order for the AMC will be placed on the successful Tenderer after the completion of guarantee period.

The Annual Maintenance contract for FIVE years shall cover all the items.

supplied vide this tender and also for all the existing items as mentioned in the Schedule "A1"

Tenderer shall inspect the site before furnishing the offer.

CONTRACTOR